

### REMARKS

This is a Response to the Office Action mailed May 26, 2006, in which a three (3) month Shortened Statutory Period for Response has been set, due to expire August 26, 2006. Claims 4, 8, 15, 26, and 35 are currently amended and claim 17 is canceled. New claims 39-44 have been added. No new matter has been added to the application. The Director is authorized to charge any additional fees due by way of this Amendment, or credit any overpayment, to our Deposit Account No. 19-1090. Upon entry of the amendments herewith, claims 2-6, 8-9, 11, 14-16, and 26-44 remain pending.

#### 1. Notice of References Cited

In the Notice of References cited, reference "B" is identified as US 4,486,879 to *Rainier Baltz*. This patent to *Baltz* is apparently related to the telephony arts. However, in the Office Action at page 9, the Conclusion indicates that US 4,486,679 is prior art made of record that is considered pertinent to the Applicants' disclosure. This US 4,486,679 patent is apparently related to the electric machinery arts. However, US 4,486,679 is not included on the Notice of References cited.

Further, in the Notice of References cited, reference "F" is identified as US 5,369,325 to *Nagate et al*. The Office Action at page 9, the Conclusion also indicates that US 5,369,325 is prior art made of record that is considered pertinent to the Applicants' disclosure. However, this patent to *Nagate et al* is apparently related to the optical sensor arts.

Applicants respectfully request clarification in the next Office Action so that prior art is properly identified in any patent that ultimately grants from the pending application.

#### 2. Rejections Under 35 U.S.C. § 102(b)

In the Office Action, claims 15-17, 26, and 32-34 stand rejected under 35 U.S.C. §102(b) as allegedly anticipated by *Steen* (U.S. Patent 4,139,790), hereinafter *Steen*. For a proper rejection of a claim under 35 U.S.C. § 102, the cited reference must disclose all

elements/features/steps of the claim. See, e.g., *E.I. du Pont de Nemours & Co. v. Phillips Petroleum Co.*, 849 F.2d 1430, 7 USPQ2d 1129 (Fed. Cir. 1988).

a. Independent Claims 15 and 26

Applicants respectfully submit that independent claims 15 and 26, as amended, are allowable for at least the reason that *Steen* does not disclose, teach, or suggest at least the feature of “a plurality of magnet slots separated from each other by at least a portion of a lamination layer, each slot comprising opposed end portions and a central portion disposed between the end portions, the central portion of each of the magnet slot slots shaped to complementarily receive a magnet, the opposed end portions separated from the central portion by portions of the rotor that protrude at least partially into the slot, and at least one of the end portions is substantially *bulbous-shaped*,” as recited in claim 15 (emphasis added) or the feature of “a plurality of magnet slots separated from each other by at least a portion of the lamination layer, each slot comprising opposed end portions and an elongate portion disposed between the end portions, and at least one of the end portions is expanded bulbous shaped,” wherein the end portion is interchangeably referred to as an “*expanded bulbous end portion*,” as recited in claim 26 (emphasis added). Applicants believe that *Steen* does not disclose, teach, or suggest at least the above-recited features of claims 15 or 26 for at least the following reasons.

The alleged end portion illustrated in *Steen* Fig. 9 and the Office Action at page 3 is not an end portion of a magnetic slot. Rather, *Steen* discloses “volumes 117 which lie between the magnets 103 and which lie between the magnets 104” (column 10, lines 48-50). Also, *Steen* discloses “apertures 116 which permit introduction of the cast metal of the squirrel cage into volumes 117” (Column 10, lines 47-48). The volumes 117 disclosed in *Steen* Figure 9 are quite different from the recited ends of the magnet slots which are separated by at least a portion of the lamination layer. That is, the recited magnet slots each have end portions that are not common or shared with other magnet slots. In contrast, the *Steen* volumes 117 are common to two magnet slots. Thus, the *Steen* volumes 117 cannot be used as anticipatory structures to reject claims 15 or 26. Accordingly, the rejection should be withdrawn for at least this reason alone.

However, a more detailed consideration of *Steen* is required to determine if other portions of the *Steen* specification or *Steen* figures disclose, teach, or suggest the above-recited features of claims 15 or 26. *Steen* Figures 3 and 6-8 illustrate a plurality of individual magnet slots with end portions (flux barriers 50, 51, 54 and 55) that are separated by a portion of laminate (reinforcing ribs 37-40). The Examiner is respectfully referred to *Steen*, column 7, lines 3-54, for a detailed description of the *Steen* flux barriers and reinforcing ribs. However, the *Steen* flux barriers, even if broadly construed as the ends of the magnetic slots, are not “substantially *bulbous-shaped*” as recited in claim 15. Nor are the *Steen* flux barriers equivalent to an “*expanded bulbous end portion*” as recited in claim 26. That is, the disclosed *Steen* flux barriers are not bulbous. Thus, the *Steen* flux barriers cannot be used as anticipatory structures to reject claims 15 or 26. Accordingly, the rejection should be withdrawn for at least this reason alone.

Furthermore, none of the other cited art of record disclose, teach, or suggest the above-recited features of claims 15 or 26. Thus, the above-described deficiency in *Steen* cannot be cured by combination with another reference.

b. Claims 16-17 and 32-34

Because independent claims 15 and 26 are allowable over the cited art of record, dependent claims 16 and 32-33 (which depend from independent claim 15) and dependent claim 34 (which depends from independent claim 26) are allowable as a matter of law for at least the reason that the dependent claims 16 and 32-34 contain all features/elements of their respective independent base claim. See, e.g., *In re Fine*, 837 F.2d 1071 (Fed. Cir. 1988). Accordingly, the rejection to these claims should be withdrawn.

Claim 17 is canceled without prejudice, waiver, or disclaimer. Applicants take this action merely to reduce the number of disputed issues and to facilitate early allowance and issuance of other claims in the present application. Applicants reserve the right to pursue the subject matter of this canceled claim in a continuing application, if Applicants so choose, and do not intend to dedicate any of the canceled subject matter to the public.

3. Rejections Under 35 U.S.C. § 103(a)

In the Office Action, claims 2-6, 8-9, 11, 14-15, 26-31, and 35-38 stand rejected under 35 U.S.C. §103(a) as allegedly unpatentable over *Kliman* (U.S. Patent 5,159,220), hereinafter *Kliman*, in view of *Steen*. It is well-established at law that, for a proper rejection of a claim under 35 U.S.C. §103 as being obvious based upon a combination of references, the cited combination of references must disclose, teach, or suggest, either implicitly or explicitly, all elements/features/steps of the claim at issue. See, e.g., *In Re Dow Chemical*, 5 U.S.P.Q.2d 1529, 1531 (Fed. Cir. 1988), and *In re Keller*, 208 U.S.P.Q.2d 871, 881 (C.C.P.A. 1981).

a. Independent Claims 8, 15, 26 and 35

Applicants respectfully submit that **independent claim 8**, as amended, is allowable for at least the reason that the proposed combination of *Kliman* in view of *Steen* does not disclose, teach, or suggest at least the feature of “at least one non-magnetic *bulbous structure*, the at least one non-magnetic bulbous structure is formed at a rotor core internal location proximate to an expected pole location of a magnet receivable in the magnet slot,” as recited in claim 8 (emphasis added). **Independent claim 15**, as amended, is allowable for at least the reason that the proposed combination of *Kliman* in view of *Steen* does not disclose, teach, or suggest at least the feature of “a plurality of magnet slots separated from each other by at least a portion of a lamination layer, each slot comprising opposed end portions and a central portion disposed between the end portions, the central portion of each of the magnet slot slots shaped to complimentarily receive a magnet, the opposed end portions separated from the central portion by portions of the rotor that protrude at least partially into the slot, and at least one of the end portions is substantially *bulbous-shaped*,” as recited in claim 15 (emphasis added). **Independent claim 26**, as amended, is allowable for at least the reason that the proposed combination of *Kliman* in view of *Steen* does not disclose, teach, or suggest at least the feature of “a plurality of magnet slots separated from each other by at least a portion of the lamination layer, each slot comprising opposed end portions and an elongate portion disposed between the end portions, and at least one of the end portions is expanded bulbous shaped,” wherein the end portion is interchangeably referred to as an “*expanded bulbous end portion*,” as recited in claim

26 (emphasis added). **Independent claim 35**, as amended, is allowable for at least the reason that the proposed combination of *Kliman* in view of *Steen* does not disclose, teach, or suggest at least the feature of “a plurality of magnet slots in the rotor core with at least one *non-magnetic bulbous structure* formed at a rotor core internal location proximate to an expected pole location of a magnet received in one of the magnet slots, wherein the magnet slots are arranged in the rotor core to be substantially perpendicular to the radial direction,” as recited in claim 35 (emphasis added).

*Kliman* does not disclose, teach, or suggest using the above-recited features of claims 8, 15, 26, and 35. *Kliman* is apparently limited to, at most, a system where “spaces 20 (or nonmagnetic material) must be provided at the ends of the magnets 14A-14D to prevent excessive leakage fluxes from drawing away the useful flux of the magnets” (column 5, lines 6-9, and Figures 1-3 and 8). The *Kliman* spaces 20 are not the non-magnetic *bulbous structure* recited in claims 8 or 35. Further, the *Kliman* spaces 20 are not an end portion that is substantially *bulbous-shaped* as recited in claims 15 and 26. Thus, *Kliman* fails to disclose, teach, or suggest every element of claims 8, 15, 26, and 35.

*Steen* also fails to disclose, teach or suggest the above-recited features of claims 8, 15, 26, and 35. *Steen* discloses, at most, “volumes 117 which lie between the magnets 103 and which lie between the magnets 104” (column 10, lines 48-50). The volumes 117 disclosed and illustrated in *Steen* Figure 9 are quite different from the recited ends of the magnet slots which are separated by at least a portion of the lamination layer. Here, the *Steen* volumes 117 are common to two magnet slots. Thus, if the *Steen* volumes 117 are used to modify the *Kliman* spaces 20, the *Kliman* magnetic slots would no longer be separate as disclosed in *Kliman*. Therefore, a *prima facie* case establishing an obviousness rejection by *Kliman* in view of *Steen* has not been made. Thus, claims 8, 15, 26, and 35 are not obvious under proposed combination of *Kliman* in view of *Steen*, and the rejection should be withdrawn for at least this reason alone.

Even if the Office Action goes so far as to use the *Steen* volumes 117 (which are common to two magnetic slots), the *Kliman* spaces 20 would still not exhibit the recited structures of claims 8, 15, 26, and 35. The *Steen* volumes 117 clearly have a plurality of different portions. There are two opposing, straight-edge portions of the *Steen* volumes 117

which abut to the magnets. The *Steen* volumes 117 have a third straight-edge portion separating the two adjacent magnets. Finally, there is a fourth edge that is curved outward into the *Steen* outer portion 22. This curved portion of the *Steen* volume 117, combined with the above-described three straight edges of the *Steen* volume 117, does not result in a bulbous structure as alleged by the Office Action. That is, if the *Kliman* spaces 20 are modified with the *Steen* volumes 117 (having three straight edge portions and one curved portion), the modified *Kliman* spaces 20 would not be equivalent to the non-magnetic *bulbous structure* recited in claims 8 or 35 or to the end portion that is substantially *bulbous-shaped* recited in claims 15 and 26. Therefore, a *prima facie* case establishing an obviousness rejection by *Kliman* in view of *Steen* has not been made. Thus, claims 8, 15, 26, and 35 are not obvious under proposed combination of *Kliman* in view of *Steen*, and the rejection should be withdrawn for at least this reason alone.

b. Claims 2-6, 9, 11, 14, 27-31, and 36-38

Because independent claims 8, 15, 26, and 35 are allowable over the cited art of record, dependent claims 2-6, 9, 11, and 28-31 (which depend from independent claim 8), dependent claim 14 (which depends from independent claim 15), dependent claim 27 (which depends from independent claim 26), and dependent claims 36-38 (which depend from independent claim 35) are allowable as a matter of law for at least the reason that these dependent claims contain all features/elements of their respective independent base claim. Accordingly, the rejection to these claims should be withdrawn.

4. New Claims

New claims 39-44 are based on subject matter that is explicit and/or inherent within the description of the specification and/or the drawings. Applicants submit that no new matter has been added in the new claims 39-44, and that new claims 39-44 are allowable over the cited prior art. Therefore, Applicants request the Examiner to enter and allow the above new claims.

5. Informalities

In reviewing the claims, Applicants noted informalities in claims 28 and 30-33 which are corrected by the amendments above.

6. Conclusion

In light of the above amendments and remarks, Applicants respectfully submit that all objections and/or rejections have been traversed, rendered moot, and/or accommodated, and that all pending claims 2-6, 8-9, 11, 14-16, and 26-44 are allowable. Applicants, therefore, respectfully request that the Examiner reconsider this application and timely allow all pending claims. The Examiner is encouraged to contact Mr. Armentrout by telephone to discuss the above and any other distinctions between the claims and the applied references, if desired. If the Examiner notes any informalities in the claims, he is further encouraged to contact Mr. Armentrout by telephone to expediently correct such informalities.

Respectfully submitted,

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